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ME-EM eNewsBrief, June 2013

Department of Mechanical Engineering-Engineering Mechanics, Michigan Technological University

ME-EM

Michigan Tech eNewsBrief

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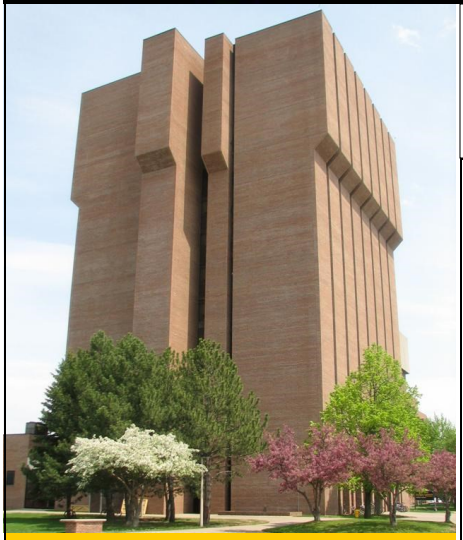

IN THIS ISSUE:

Greetings from William (Bill) Predebon, Chair, Department of Mechanical Engineering-Engineering Mechanics at Michigan Tech. For the latest news and info about our faculty, students and staff, please visit our website at www.mtu.edu/mechanical. Visit us on Facebook, MEEM.

Upcoming Events

The Department of Mechanical Engineering - Engineering Mechanics invites you to join celebrating the end of its 85th year of delivering a world class mechanical engineering education to its students. The schedule of activities for 2013 Reunion is:

Thursday, August 1st
ME Scholarship Boat Cruise

12:30 p.m. - 3:30 p.m. – Afternoon cruise down the Portage Canal on the Ranger III. We will board at the National Park Service dock east of the Dee Stadium, right behind the Franklin Square Inn. We depart at 1:00 p.m. and will return at 3:30 p.m. (plenty of time to attend the Pasty Picnic). **Cost of the cruise is $35 per person which covers the ticket for the Ranger and a $15 donation to a department scholarship.** Food and drinks are compliments of the ME-EM Department. Register and pay for the cruise online at register . Space is limited and reservations are required so sign up online or RSVP as soon as possible to kagoulet@mtu.edu or phone (906) 487-2551.

Friday, August 2nd

1:30 p.m. – tour of selected ME-EM research labs, meet in the lobby of the ME-EM building. Refreshments will be served.

Student Accomplishments/Awards

Michael Kivisalu (PhD candidate, ME-EM) has been awarded a spring 2013 finishing fellowship. His advisor is **Dr. Amitabh Narain** (professor, ME-EM)

Andrew Willemsen (PhD candidate, ME-EM) received a finishing fellowship for summer 2013. His advisor is **Dr. Mohan Rao** (professor, ME-EM)

Byrel Mitchell (PhD candidate, ME-EM) has received an honorable mention in the National Science Foundation competitive research fellowship program. The program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering and mathematics disciplines who are pursuing research-based masters and doctoral degrees at accredited US institutions. His advisor is **Dr. Nina Mahmoudian** (assistant professor, ME-EM).

Presidential Council of Alumnae (PCA) ME-EM Inductees

The Michigan Tech PCA held its induction on Sept. 13-15, 2012. Inductees are recognized for achievements in a number of areas, such as education, professional achievements, past service as a student or currently in their community, support for the University, and personal achievements. The PCA advises the President on campus climate issues and provides suggestions for enhancing the University's environment for all students. The PCA members assist the President by identifying programs and activities that will benefit Michigan Tech. PCA works with the Office of Institutional Diversity, the Advancement area, and the academic departments to help implement their ideas, and support the University's strategic plan. ME-EM inductees are:

Laura K. Farrelly graduated with honors from Michigan Technological University in 1993 earning a bachelor's degree in Mechanical Engineering. She went on to earn a master's degree in Mechanical Engineering from the University of Michigan–Dearborn. And she also earned an MBA in marketing and finance from Northwestern University's Kellogg School of Management. After Michigan Tech, Laura was selected to be a member of the Ford Motor Company College Graduate Program – a 2 year rotation program for high-potential engineers. Ford Motor Company recognized her strong work performance by paying for her graduate engineering program which she pursued in the evenings while working fulltime. She was then promoted to a Powertrain Product Development Engineer – developing engine and transmission programs for the heavy duty truck and sport utility vehicle segments. Laura left Ford Motor Company to pursue her MBA at Kellogg. Since graduating from Kellogg, Laura has held executive level positions in marketing, product management, and business development at software companies ranging in $10M to $75M in revenue. In her most recent position as Vice President of the Microsoft Alliance at NewsGator Technologies, Laura was responsible for securing NewsGator's position as a 'Globally Managed' Microsoft partner (an honor reserved for companies 5 to 40x the size of NewsGator). She also helped NewsGator to earn Microsoft's 2011 U.S. Partner of the Year award (selected from over 10,000 U.S. partners) and she secured $1.2M in funding from Microsoft (a 10x increase over prior years' funding). Laura is involved in several professional organizations. She was a founding member of the Colorado CMO Group. She has served as a member and program director of the Boulder Marketing Group. She is a member and guest speaker for the Boulder Software Club as well as a member of the American Marketing Association. While a student at Michigan Tech, Laura was an active member of Delta Phi Epsilon where she held several leadership positions including Treasurer. She was a member and executive board leader of the Society of Women of Engineers. And she served as co-chair of the 1993 Senior Class Council helping to direct a $10,000 fundraising campaign. During college Laura paid for 70% of her college tuition and expenses by working as a Douglas Houghton Hall Cafeteria Worker, a Collaborative Learning Calculus tutor and team leader, and a Ford Motor Company intern. Currently Laura is active with the Delta Phi Epsilon Alumni Association and she recently co-funded a scholarship at Michigan Tech to benefit a current student who is also a member of the sorority. She is also a member of the Michigan Tech Presidents Club. Laura is also an active member of her community. She and her husband have volunteered as Boulder County Foster parents for several years and were blessed with being able to adopt two of their foster children. She has served as a mentor and tutor for Boulder I Have A Dream program – helping her mentee to graduate from high school and go on to attend nursing school! She is an active member of the Boulder Country Day PTO. Additionally, she has served as a volunteer for The Community Foundation and as a Eucharistic Minister for St. Thomas Aquinas Church. Laura and her husband Brad Beck live in Boulder, Colorado with their two daughters – Lyra (age 3) and Kate (age 2).

Pamela S. Klyn (Rogers) earned a bachelor's degree in Mechanical Engineering from Michigan Tech in 1993. She went on to earn a master's degree in Mechanical Engineering from the University of Michigan in 1993 and an Executive MBA from Bowling Green State University in 2002. After graduating from Michigan Tech, Pam hired into Whirlpool Corporation's Technical Excellence Program. During her 19 years with Whirlpool, she has held advancing roles in engineering, product development, global innovation and sales and marketing. During this time Pam was the first female technology director in Whirlpool's history and also achieved certification as an OPEX Six Sigma Blackbelt. Pam's current role is General Manager of Cooking Products for North America. In this role she is responsible for the P&L of the business as well as a multi-year business plan and product strategy. Pam was recognized as one of the "Top 40 under 40" Business Leaders in Michigan in 2005 and in early 2012 she was profiled in the Wall Street Journal article "From Rising Star to Senior Manager". She is passionate about helping younger talent in the organization grow and develop. In addition to serving as a mentor for a

Presidential Council of Alumnae (PCA) ME-EM Inductees continued

Pamela S. Klyn (Rogers) continued

number of individuals at Whirlpool, Pam is also co-lead of the Whirlpool Women's Network. Earlier this year this group hosted the first ever "Women's Summit" for top talent females at Whirlpool. The summit was titled "Power Your Path Forward" and provided tools and guidance for emerging female leaders to use to take charge of their careers and to give them the confidence to pursue roles at the highest levels of the organization. While at Michigan Tech, Pam was a member of Delta Phi Epsilon Sorority and Omicron Delta Kappa leadership honor society. She was also a math tutor in the Math Lab. Pam has returned to campus a number of times as a guest speaker at the Women in Engineering summer program and has also been the Whirlpool lead for a number of Michigan Tech recruiting activities. She has been a long-time advocate and supporter of Michigan Tech – serving as the Whirlpool Corporate Agent in the University's Matching Gift Competition for 10 years. She has also been an annual contributor providing financial support for numerous programs. She recently joined with two fellow alumnae to establish a scholarship fund to assist a student who is a member of the Delta Phi Epsilon sorority. Pam is currently a member of the Michigan Tech Presidents Club. Pam has served on the Board of Directors for the United Federal Credit Union for 7 years. She also serves on the Renaissance Fund Board for Harbor Shores, an organization dedicated to revitalizing the Benton Harbor area. Pam also enjoys marathon running and has completed 23, including 2 Boston Marathons. Pam currently lives in St. Joseph, Michigan, with her husband Steve and her step-children Parker (age 16) and Cara (age 13).

Sylvia A. Salahutdin (Matranga) graduated from Michigan tech in 1991 with a bachelor's degree in Mechanical Engineering and is first in her family to become an Engineer. She is currently the owner of seven LLC's companies operating under the DBA Little Caesars Pizza franchises. Sylvia began her career at Michigan Tech in the co-op program working for Mead paper in Alabama. After graduation she started her career "saving lives" working for AlliedSignal selling seatbelts, airbags and electronics to various OEM's. In 1993 she was recruited by a Japanese supplier, Takata, to help start their North American sales and program management group. After four years and several promotions while working for Takata she was recruited by Autoliv which is a fortune 500 safety restraint company. During her career at Autoliv she became the global negotiator for the General Motors Worldwide Business Unit conducting negotiations in Asia, Europe, and North America. She became the youngest Director at age 30 – running the General Motors Business Unit and then the Ford Business Unit which included sales, engineering and program management. After seeing successes in managing these groups she was selected by the President to help reorganize the North America Purchasing group. In 2005, Sylvia became the Director of Purchasing running groups in the United States and Mexico. After three years as Director of Purchasing she was asked to help organize, train and develop the purchasing group and strategies for Asia Pacific which included groups in countries of China, Japan, India, and Thailand in Shanghai, China. After several years living and working in Shanghai, Sylvia and her husband decided to become Little Caesars franchisees as a side business. Sylvia flew from China to open the first store in August of 2010 followed by the two others. Due to the success of the first store opening, Sylvia ended up retiring from her automotive career and moving back to the US shortly after the first store opened. Her husband stayed in China for an additional year until he retired from his automotive career to help open the fourth store. All four stores were opened within a fourteen month period and have created jobs for 150 people. Three additional stores will open before year-end 2012. During her college days at Michigan Tech, Sylvia was a member of Alpha Delta Alpha Sorority, Michigan Tech Student Foundation, as well as Society for Women Engineering where she was awarded the gas turbine scholarship. With starting her own business after 19 years of working in the automotive industry and traveling worldwide, Sylvia is able to spend more time volunteering at her children's schools and has sponsored and hosted community events in the York, PA area. She is also an active alumni in her sorority as well as an active member with her husband on the Little Caesars franchise council. Sylvia and her husband, Rashid ('91 Mechanical Engineering) live in York, Pennsylvania with their two children Alexis (age 7) and Nikko (age 4).

The Academy of Mechanical Engineering and Engineering Mechanics Induction

On Saturday, April 27, 2013, the Department of Mechanical Engineering - Engineering Mechanics inducted six alumni into the Mechanical Engineering and Engineering Mechanics' Academy. The purpose of the Academy is to honor outstanding graduates of the Michigan Technological University Department of Mechanical Engineering – Engineering Mechanics. Selection into the Academy recognizes excellence and leadership in engineering and civic affairs. This induction honors some of the most successful mechanical and engineering mechanics alumni of Michigan Tech. Academy members serve as inspirational role models for future mechanical engineering and engineering mechanics students. The following alumni were inducted:

John M. Beattie earned his BS degree in Mechanical Engineering from Michigan Tech in 1963. Prior to coming to Michigan Tech, John attended Central Michigan University for a year. After graduation from Michigan Tech, John's initial employment was with the Louis Allis Company in Milwaukee, Wisconsin where he was a design engineer on a variety of commercial, military and NASA space projects. His expertise was in ball bearing technology and V-belt technology. In 1968 he joined the Toro Company in Bloomington, Minnesota as a project engineer for the Riding Greensmower 3 and Groundsmaster 322. In 1972 he was promoted to Director of Manufacturing and Engineering of the Turf Products Division. He was instrumental in the development of the Sandpro, Greensmaster 1000, and Hydroject machines. In 1974 he also took over the responsibilities of Vice President of Operations of the Raincat Irrigation Division for Toro in Evans, Colorado. He left Toro in 1976 to head his own company, Hyland Pet Products in Greeley, Colorado, where he also was doing contract manufacturing at that time. In 1986 he took over as Vice President of Operations at Byco Manufacturing in Greeley, Colorado. He started another company, Concept Engineering Corporation of Greeley, Colorado in 1986 where he specialized in consulting, new product development, and as an expert witness in product liability litigation. While at Concept Engineering a golf course mechanic approached John to build a service lift for mowers and turf equipment. John's market research demonstrated that there was a substantial potential in this area of turf management, and in 1991 he established Trion Lifts, Inc. John is currently the President and Chief Executive Officer of Trion Lifts, Inc. He was the designer and lead engineer in the development of the Trion workstation as well as Trion's DL 1300 Mobile Lift Table, the revolutionary Reel Conditioner and an expanding line of maintenance tools for productive turf equipment service. Trion's current product line includes lifts and work stations. Trion products are distributed worldwide and are found on every continent but Africa. John is either the inventor or the co-inventor on fifteen patents. He is active as an elder in the First Presbyterian Church in Greeley Colorado and is the leader of various bible studies. He is a past board member of Dayspring Christian Academy in Greeley. His hobbies include skiing, sailing, house remodeling, and designing on the backs of placemats and napkins. On July 25, 1964, John Married Marilyn Cramer. They have one son, Scott. Scott attended the Michigan Tech Summer Youth Program in 1986 but went on to earn his PhD in Statistics at Penn State.

Ray H. Herner earned his BS degree in Mechanical Engineering from Michigan Tech in 1953 and an MS degree in Mechanical Engineering in1954. Prior to coming to Michigan Tech, Ray attended Lake Superior State University ("Soo Tech") for two years. At Tech, Ray received a Teaching Fellowship for Mechanical Engineering. After graduation he lived and worked in Alpena for 22 years. His career included working at Abitibi, a wood product plant, where he held the position of mechanical superintendent; at Petch Manufacturing Co.; and as general manager at King Valve Co. He also taught evening courses for eight years at Alpena Community College where he was an adjunct faculty member. He developed and taught the first engineering courses there, they were all accredited by Michigan Tech and the University of Michigan. In 1976 he moved to Ohio to accept the position of vice president and later president of Mosier Industries in Brookfield, Ohio. Mosier Industries Inc. is a manufacturer of fluid power cylinders and actuators. He has served on the Board of Directors of Mosier Industries. While at Mosier, Ray broadened the offerings of the standard product lines and directed the design and startup of a new product line. He built the company by innovation and solving problems for his customers. He designed two complete cylinder lines, a complete valve line, and many various applications specific to individual companies. He retired from Mosier in 1993 but retained his seat on the Board of Directors and held a consulting contract with them until 2002. When Ray graduated from Michigan Tech, the buzz word was automation. In the 80s and 90s it became "computers". Ray had the opportunity to design devices that successfully interfaced with computer control to increase product production. Over the years, his career gave him the opportunity to travel to various manufacturing companies and make extensive business contacts throughout the United States, Canada, England, France, Germany, Mexico, and Taiwan. Ray is an inventor with eight patents; all in the field of fluid power. Ray has served as an advisory board member at Ohio State University. He has also established the Ray H. Herner Scholarship at Alpena Community College that is awarded to students enrolled in pre-engineering with plans to transfer to a 4-year university. While at Michigan Tech, Ray married his wife LaNora, who passed away in 1988. They have two children, Catherine and Steven. Catherine has a BS degree in education from Central Michigan University and Steven received his BS degree in criminal justice from Lake Superior State. His grandson Ken Herner graduated from Michigan Tech in 2008 with a degree in Computer Science.

The Academy of Mechanical Engineering and Engineering Mechanics Induction

Tom B. Moore earned his BS degree in Mechanical Engineering from Michigan Tech in 1966. After graduation he went to work for Standard Oil of CA, now Chevron, as a plant engineer in Richmond, CA. For two years he worked on major plant expansions. Then he and a fraternity brother took off a year and traveled 21 countries. He returned to Denver to work for Behrent Engineering for one year and then he went to work for Stearn Rogers Inc., an international design/construction firm, now part of Raytheon. He worked on special projects that included plutonium waste sites, natural gas facilities, central heating plants, etc. He was there for about 8 years. He joined the consulting firm of RMH Group Inc. in 1978 as manager of the mechanical department and has been with them for 35 years. Within nine years Tom became a major owner and president of RMH and was president until 2006. While he was president he diversified RMH to become a leader in sustainable energy design and net zero or energy neutral design, renewable energy use in design, including solar panels, evaporative cooling, etc. In addition he worked on many military facilities. While president he grew the business from 40 employees to 120 and doubled the profit. They quickly gained recognition locally and nationally for their exceptional designs in energy efficient buildings. The RMH Group has won numerous awards in design, energy, lighting and environmental categories and has been included in Engineering News-Record's list of the top 500 design firms in the U.S. Tom actually began his mechanical engineering career at an early age when he was repairing farm machinery and building hot rods in the small farming community of Marinette, Wisconsin, where he grew up. That interest led him to pursue automotive engineering as a career. He was greatly influenced by his parents to do one's best, to work hard, and to always respect others. Tom was a board member of the American Consulting Engineers Council of Colorado, an organization representing 250 Colorado consulting firms. He was elected president of the Council in 2000. He worked on a campaign in 1999 to raise funds for a new Architecture Building at Colorado University. Now retired, he is still a mentor to young engineers, a lifelong car enthusiast, and an avid outdoors person. He also supports the Jeffco Action Center (Jefferson County, CO): a non-profit agency providing basic human services to people in financial need. He has written numerous articles for engineering and business publications and was professionally registered in ten states. He married his wife Wendy on October 9, 1970. They have three grown children, Erin, Rani, and Justin and numerous grandchildren.

Vijay K. Sazawal earned his Ph.D. degree in Mechanical Engineering and Engineering Mechanics from Michigan Tech in 1975. He holds an M.Tech. in Materials Engineering from the College of Technology, Bhopal, India and a BS degree in Mechanical Engineering from Banaras Hindu University in India. After completing his doctoral degree in structural mechanics, he joined Westinghouse Electric Corporation in the Advanced Reactors Division as part of the design and technology team working on the Clinch River Breeder Reactor Project (CRBRP). His tenure in Westinghouse lasted 20 years during which time he rose through successive management positions with responsibility for fast reactors, advanced terrestrial and space reactors, nuclear defense programs, and U.S. government programs to promote safety upgrades of Russian built reactors in Central and Eastern Europe. He was part of the Westinghouse transition team that took over management and operation (M&O) of the Savannah River Site (SRS) from DuPont Company in 1989. In 1995 he took a job with COGEMA Inc. as VP, Engineering and Technology. In 2002 he went to work for US Enrichment Company Inc. (USEC) as Director, Government Programs, which is his current position. USEC was Federal agency that became privatized. They are a leading supplier of enriched uranium fuel for commercial nuclear power plants worldwide. He coordinates and pursues advocacy for existing and new business initiatives. He is a member of the management team involved in the American Centrifuge Project, the leading initiative by USEC Inc. to build a state-of-the-art centrifuge nuclear enrichment plant based on American technology. His advice had been sought by the US State Department and DOE on nuclear export trade to India and other major commercial nuclear markets in the world. In 2011 he was appointed to the Civil Nuclear Trade Advisory Committee (CINTAC) to advise the US Commerce Department on trade issues facing the industry. Dr. Sazawal is a founding member of the Indo-American Kashmir Forum (IAKF) and its past President. He is currently the Overseas Coordinator of three Kashmiri expatriate organizations: the U.S. based IAKF, the Indo-Canadian Kashmir Forum (ICKF) based in Ottawa, and the Indo-European Kashmir Forum (IEKF) based in London and Geneva. These organizations are recognized non-governmental organizations (NGO) which participate in the United Nations Commission on Human Rights (UNCHR) Working Group on Minorities. Dr. Sazawal is also a member of the Interfaith International, which is an accredited organization to the UNCHR, and frequently speaks on the human rights issues in Geneva. He works closely with the Kashmiri Pandit community in Jammu and Kashmir, and has addressed their plight with the U.S. Administration, the U.S. Congress and the media. He has also made presentations in the British Parliament. He is also a member of the National Advisory Committee on South Asian Affairs (NACSAA), an informal expert group advising the U.S. State Department on South Asia and a member of the Brookings Institution Expert Group on South Asia. In 1999, he was invited by members of the U.S. Congress to provide a briefing on the Kargil situation. He has authored numerous articles, in American and Indian publications. He played an active role as a subject matter expert in the U.S. India Business Council (USIB) on the civil nuclear agreement. He and his wife Meenakshi have three children and three grandchildren.

The Academy of Mechanical Engineering and Engineering Mechanics Induction

Maurice "Morry" Taylor earned his BS degree in Mechanical Engineering from Michigan Tech in 1968. Morry attended Northwestern College for two years prior to completing his degree at Michigan Tech. While at Michigan Tech, Morry opened the first self-service car wash in the area. He was first employed by General Motors as a mechanical engineer in Saginaw. In 1970, he left for Morweld Steel Products, and in 1972 became part owner of the American Steel Impact Corp. in Detroit. In 1974, he started Maurice Taylor & Associates where he was a representative for steel products manufacturers. In 1983, he became President/CEO of CanAM Industries in Quincy IL. In 1990, CanAM moved its headquarters to Quincy, IL and changed its name to Titan Wheel International, Inc. At that time, Morry led a leveraged buy-out in concert with Masco Industry. In 1992, Morry and MascoTech purchased the remaining interest in the company. Under Morry's entrepreneurial leadership, Titan has successfully acquired and recreated previously-failed businesses in the off-highway wheel and tire markets. In 1993, Morry led the company through its initial public offering on the NASDAQ Stock Market. After enjoying successful trading on NASDAQ, Titan moved to the New York Stock Exchange. He was nicknamed "The Grizz" by Wall Street analysts for his tough negotiating style. He has transformed Titan from a small wheel manufacturing business to a global producer of off-highway wheel and tire systems. In 1996, Morry ran as a Republican candidate for President of the United States, campaigning to bring sound fiscal management and business know-how to Washington. He wrote the book "Kill All the Lawyers and Other Ways to Fix the Government" about the campaign. Morry's philosophy is that hard work and a little luck is the greatest combination for success and can always make up for brains, but never forget to keep learning. He has established the "Brent Taylor Charitable Trust" serving educational institutions. The trust is named for Morry's brother who was killed in an auto accident in 1997. He also established the Maurice & Michelle Taylor Foundation which awards college scholarships to children of Titan employees, as well as the Maurice Taylor & Brent Taylor Loan-Scholarship Fund and the Titan Tire/Titan Wheel Engineering Annual Scholarship at Michigan Tech. Morry married Michelle Callahan on August 16, 1975. They have three children, a son Anthony who attended Michigan Tech, and two daughters, Maureen Sredl and Katie Rivers.

.**Raymond M. Trewhella** earned his BS degree in Mechanical Engineering from Michigan Tech in 1956. He also attended the University of South Carolina's MBA program. He began his career with Cliff Naturals (Cleveland Cliffs) in 1956 where he was responsible for mechanical and electrical maintenance for 40 skilled associates and the start-up of the first pelletizing iron ore plant in Michigan. He left in 1960 to assume the position of senior engineer with General Electric Company in Irmo, South Carolina. While at GE, he received the General Electric Company Managerial Award for Development of the Hermetically Scaled Tantalum Capacitor. In 1967, at the age of 32, he accepted an offer to join Glassmaster Company in Lexington, South Carolina, as executive vice-president. In 1970 he became president and in 2001 president and CEO of Glassmaster Company. He retired in 2007. While at Michigan Tech, Ray played basketball. In 2003 he was elected to the Michigan Technological University Sports Hall of Fame for basketball. Ray is the holder of patents for the innovative electrical component design. In 1973 he received the State of Oklahoma, U.S. Senator Dewey F. Bartlette, Oklahoma Key to Intelligence and Enterprise (OKIE) Award which entitles him to be an honored citizen from Oklahoma. From 1975 – 1976 he was the chairman of the Manufacture Council in Columbia, South Carolina, and from 1976 – 1979 he was Director of the Chamber of Commerce for the Greater Columbia area in South Carolina. The Alumni Association of the University of Oklahoma, College of Medicine honored him with the Amicus Medicine Award in 1980. He is listed in the National and Heritage Registry of Who's Who from 2001-2007. He has served as Church School Superintendent of St. Michael and All Angels Episcopal Church. Ray was married to Julianne (Julie) Anderson Trewhella for 59 years. He lost her to cancer on February 11, 2013. They have 3 daughters Debbie, Joanne, and Kathleen. He has five grandchildren and three great grandchildren.

Faculty and Student Invention Disclosures

An invention disclosure, "Hatchback 4-Bar System", was submitted by the following ME seniors **Scott Thompson, Daniel Polovich, Benjamin Kloster, Jacob Bruggink, and Clayton Brown.** Their advisor is **Prof. Charles Van Karsen** (associate professor, ME-EM). The project was sponsored by Chrysler.

An invention disclosure, "Light Weight Swing Gate", was submitted by the following ME seniors **Thomas Schmidt, Eric Lindholm, Katherine Schattl, Caleb Carlson, and Andy Wybo.** Their advisor is **Prof. Charles Van Karsen** (associate professor, ME-EM). The project was sponsored by Chrysler.

An invention disclosure, "Tactical Traversing Apparatus", was submitted by the following ME seniors **Karl Gubert, Mary Gardner, Ben Daavettila, Cole Hume, Chelsea Ruff, Nathan Saliga, and Benjamin Kalis.** Their advisor is **Dr. Jeffrey Allen** (associate professor, ME-EM). The project was sponsored by Air Force Research Lab.

An invention disclosure, "Pneumatic Leveler" has been submitted by ME seniors **Kyle Kovacs, Aaron Lilly, John Sand, and Huajun Ni.** Their advisor is **Dr. William Endres** (associate professor, ME-EM). The project was sponsored by Jershon Inc.

Alumni and Friends News, Accomplishments & Awards

Harry James Blevins "Jim" (BSME '72) has been elected the Mayor of Pascagoula, MS. Jim retired from Chevron in 2010 and is working as an Independent Engineering and Project Management Consultant in Pascagoula, MS. Read the article at Blevins.

Eric Diehr (BSME '10) was credited by Andrew Zeller, a De Pere high school student and a runners up in the Green Bay Press Gazette 2012-13 Academic All Stars, with being his mentor and inspiration. Read his essay excerpt at Diehr.

Nathaniel Gentry (BSME '05 and Laura Gentry (BA, '05) were in the news regarding their purchase and renovation of a building in downtown Zeeland into a restaurant and brewpub called Tripel Root. Read their story at Gentry.

Greg Ives (BSME '03) celebrated his second National win this year as crew chief for NASCAR driver Regan Smith on May 4th at the Tallagega Superspeedway in Talladega, AL. He took his second national title on June 13th at the Alliance Truck Parts 250 Nationwide Series at the Michigan International Speedway . Greg was the race engineer for Jimmy Johnson's historic run of five NASCAR Sprint Cup Series championships. Greg was named crew chief for JR Motorsports on Nov. 20, 2012. JR Motorsports is owned by Dale Earnhardt Jr. Read about Greg at Ives.

Colleen Jones-Cervantes (BSME '83) returned to Michigan Tech to give the keynote address at the ME-EM senior banquet. Colleen currently serves as Vice President, Product Supply & Trading and has global responsibility for the supply of non-crude oil feedstocks to Chevron's refining system, refined products supply and trading, marine fuels marketing, and biofuels supply and trading. Read the story at Cervantes.

Robert "Bob" Wilson (BSME '87) is the new vice president, international division at Intelligrated Inc. Wilson will be responsible for ensuring competitiveness in international markets and managing operational practices, product designs and support systems. Intelligrated Inc is headquartered in Mason OH.

Terry Woychowski (BSME '78 and Michigan Tech Board of Control member) has joined American Axle Manufacturing in Detroit as senior vice president for engineering and quality. AAM provides driveline and drivetrain systems to automotive companies globally. Prior to joining AAM, Woychowski spent more than thirty years with General Motors Company, retiring in 2012 as vice president for global quality.

Promotions—On May 3, 2013 the Michigan Tech Board of Control approved the following promotions:

Dr. Bo Chen from assistant professor without tenure to associate professor with tenure. Her research interests are artificial immune systems and pattern recognition, mobile-agent and multi-agent systems, sensor networks and networked embedded systems, structural health monitoring, and vehicle electronics and control networks. Visit her website at Chen.

Dr. Seong-Young Lee from assistant professor without tenure to associate professor with tenure. His research interests are spray combustion, fuel flexibilities, soot emissions, internal combustion engines, gas turbine engines and laser-based combustion diagnostics. Visit his website at Lee.

Dr. Desheng (Dennis) Meng from assistant professor without tenure to associate professor with tenure. His research interests are self-regulating micro fuel cells for portable military/ civilian electronics, nano-structured surfaces for energy and environmental applications, micro and nano fluidics for energy harvesting, and self-healing material. Visit his website at Meng.

CAPSTONE CORNER

Did you know…

…that MEEM's Senior Capstone Design Program is one of fifteen capstone programs nationwide chosen by the Air Force Research Labs to compete in a three year design competition?

Yes.

And, this elite program is once again working with people like you to plan design projects for this coming fall … and even planning ahead for January 2014.

The 10,000+ people in the Air Force Research Labs cannot be wrong! Join them in working with one of the best Capstone programs in the nation. Contact us to get involved ***!!***

Bob De Jonge
rdejonge@mtu.edu
906-487-2142

Student Competitions and Team Awards

Mark DeYoung (sr., ME-EM) was a member of one of two Michigan Tech teams that competed in the National Sustainable Design Expo on April 18-19, 2013 against 44 other college teams. Read the article at Expo The story was also ran on CBS Detroit News. See News.

More than 60 student teams competed in the Michigan Tech Undergraduate Expo on Thursday, April 18th. Honorable Mention in the Senior Design category went to the ME-EM team for the Lightweight Swing Gate. Members of the team are **Thomas Schmidt, Eric Lindholm, Katherine Schattl, Caleb Carlson, and Andy Wybo**, all seniors in Mechanical Engineering. Their advisor is **Prof. Charles Van Karsen** (associate professor, ME-EM). The project was sponsored by Chrysler. See the ME-EM Senior Capstone Design site at Design.

Third place in the Enterprise category of the Expo was awarded to the Aerospace Enterprise. Team leaders are **Jacob LaSarge** and **David Kiekintveld**, both seniors in Mechanical Engineering. Their advisor is **Dr. L. Brad King** (professor, ME-EM). They are sponsored by Air Force Research Laboratory. See the Enterprise program site at Enterprise.

Honorable Mention in the Expo Image Contest went to the Velovations Enterprise: Human Testing to Investigate Human Power Trends. See the photo at image.

At the recent SAE Supermileage event in Marshall, Mich., Michigan Tech's team placed sixth overall. Twenty-eight teams registered this year, of which 19 successfully passed technical inspection and 15 made successful fuel runs, including Michigan Tech, who ended up with 758 mpg. Their design report score of 350 was among the highest. Read the coverage of the event at WILX and at CBS Detroit or follow the team on Facebook.

The Senior Design team that is improving on the Jaipur foot that was developed in India, was highlighted in Tech Today. The team is advised by **Dr. Nina Mahmoudian** (assistant professor, ME-EM) and **Dr. Mo Rastgaar** (assistant professor, ME-EM). Read the article at foot and Jaipur.

The Women in ASME (WASME) at Michigan Tech participated in a visit sponsored by Kimberly-Clark (K-C).

Student Competitions and Team Awards continued

The visit took place from April 17-18, 2013 and was attended by 10 undergraduate students (8 mechanical engineering, 1 biomedical engineering, and 1 general engineering) and the WASME advisor, **Danise Jarvey** (senior academic advisor, ME-EM). It included touring the research center, experimental mill, and a manufacturing facility in the Neenah, Wisconsin area. The trip was fully funded by K-C and was led by Michigan Tech alumnae **Nickie Barna** (BSME '09) and Kendell Williams (ChemE). Other Michigan Tech ME alumni participating were **Mike Smaby** (BSME '80) and **Scott Williams** (BSME '80).

Faculty/Staff Awards/ Accomplishments

Dr. Bo Chen has been named the Dave House Associate Professor of Mechanical Engineering and Electrical Engineering. She is an expert in embedded sensor networks, multi-agent systems, and vehicle electronics and control. Dr. Chen who formerly held a sole appointment in ME-EM will now hold a joint appointment with ME-EM and ECE with the majority in ME-EM.

Dr. C. K. Choi (assistant professor, ME-EM) was quoted in the Michigan Tech news regarding the recent unrest in North Korea. Read the article at Choi.

Dr. Mahesh Gupta (professor, ME-EM) has been named a Fellow of the Society of Plastics Engineers. Fellows are selected based on outstanding achievements in the field of plastics engineering, science or technology or in the management of such activities.

Dr. John H. Johnson (Professor Emeritus and Research Professor, ME-EM) has been selected to receive the 2013 ASME Internal Combustion Engine Award "for leadership in innovative research in the modeling of diesel engine particulate filters and aftertreatment systems based on extensive experimental data; for dedication in educating graduate students on diesel engines; and for leading and participating in the national studies of technology to reduce internal combustion engine fuel consumption." He will be given the award at the ASME 2013 Internal Combustion Fall Technical Conference, set for Oct. 13-16 in Dearborn, MI.

Dr. Nina Mahmoudian (assistant professor, ME-EM) had her research on a new generation of autonomous underwater vehicle highlighted in Michigan Tech News. The vehicle was provided by Enbridge—a $400,000 research effort with a piece of high-tech equipment that the Great Lakes Research Center will get to keep after the project is done. Nina and a graduate student working with her will develop pipeline inspection algorithms based on data collected by the autonomous underwater vehicle. Read the article at vehicle.

Dr. Desheng (Dennis) Meng (associate professor, ME-EM) had his research on growing manganese dioxide nanorods highlighted in April's edition of Watt's New? Michigan Energy News. While Dennis is not named, it is his research. Read the article at: http://www.jdsupra.com/legalnews/watts-new-michigan-energy-news-april-88830/.
His research was also highlighted in Michigan Tech News at Meng.

Dr. William Predebon (professor and Department Chair, ME-EM) received the Clair M. Donovan Award from the at the 19th Annual Student Leadership Awards ceremony held on April 26th, 2013. The Clair M. Donovan Award is awarded to a member of the faculty, staff, or student body of Michigan Technological University who has contributed the most outstanding service during the preceding year. The Michigan Tech chapter of Blue Key Honor Society sponsors the award.

Dr. Sheryl Sorby (professor emerita and research professor, ME-EM) appeared in the April 17 edition of the Wall Street Journal. The article, "Can New Building Toys for Girls Improve Math and Science Skills?" mentions Sorby's 2005 study showing that when middle school girls took a spatial visualization course, they took more upper-level math and science courses in high school.

On June 12, 2013, Michigan Tech's Staff Council honored ME-EM research engineers **Michael LaCourt** for 35 years of service and **Robert Whipple** on his retirement.

The following ME-EM faculty were honored by the University on May 17, 2013 for their years of service:

- **Prof. Charles Van Karsen**, associate professor, 25 years
- **Dr. Amitabh Narain**, professor, 30 years
- **Dr. Chris Passerello**, professor, 35 years

Dr. Reza Shahbazian Yassar had his article "Atomic resolution images show what happens when lithium ions enter battery electrodes" published in ACS Nano and subsequently selected as a spotlight article on Nanowerk.com. Read more at Nanowerk.

Dr. Reza Shahbazian Yassar (associate professor, ME-EM) had his research on extending smartphone stamina highlighted online. Read the article at Drewturney.

Current Contracts and Grants

Dr. Bo Chen (PI, ME-EM) and **Dr. Jeffrey Naber** (co-PI, ME-EM), "Nostrum Continued Work Summer 2013", sponsor: Nostrum Energy, LLC, amount: $75,600.

Dr. Qingli Dai (PI, CEE) and **Dr. Fernando Ponta** (coPI, ME-EM), "Collaborative Research: Nexus of Simulation, Sensing and Actuation for Aerodynamic Vibration Reduction of Wind Turbine Blades", sponsor: National Science Foundation, amount: $331,286.

Dr. L Brad King (PI, ME-EM) and Adam Funkenbusch (coPI, ECE), "OCULUS-ASR", sponsor: University of Michigan - MSGC, $2,500.

Dr. Desheng Meng (PI, ME-EM) and **Dr. Craig Friedrich** (co-PI, ME-EM), "Collaborative Research: Self-Circulating, Self-Regulating Microreactor for On-Chip Gas Generation from Liquid Reactants", sponsor: National Science Foundation, amount: $86,261.

Dr. Jeffrey Naber (PI, ME-EM) and **Dr. Seong-Young Lee** and **Dr. Jaclyn Johnson** (coPIs, ME-EM), "NG Engine Component Studies in Combustion Lab for Advanced Green Innovations", sponsor: Advanced Green Innovations, LLC, amount: $149,130.

Dr. Jeffrey Naber (PI, ME-EM) and **Dr. Jaclyn Johnson** (coPI, ME-EM) and Dr. Pasi Lautala (coPI, CEE), "Independent Review of High Pressure Heat Exchanger Locomotive Test and Thermodynamic Simulation", Sponsor: US Department of Transportation - Federal Railroad Administration, amount: $37,986.

Dr. Gordon Parker (PI, ME-EM) and **Dr. Steven Goldsmith** (coPI, ME-EM) and Dr. Wayne Weaver (coPI, ECE), "Agent Based Control with Application to Microgrids with High Penetration Renewables", sponsor: Sandia National Laboratories, amount: $100,000.

Department Accomplishments

For the eighth consecutive year, Michigan Tech ranks as the top Peace Corps Master's International (PCMI) university nationwide. The Mechanical Engineering - Engineering Mechanics Department remains the only mechanical engineering program in PCMI. Read the article CBS Detroit carried at PCMI.

University News/Awards

Business Insider, a business website that analyzes financial, media, technology and other industries has ranked Michigan Tech at 22 on its list of the top 25 underrated schools. They combined the US News & World Report rankings of best universities and the Payscale.com college salary report to develop rankings that reflect both reputation and the salaries earned by graduates. Read the article at ranking .

The League of American Bicyclists has named Michigan Tech a bronze-level Bicycle Friendly University. "The award recognizes the progress being made at Michigan Tech to improve biking on campus," said Chris Fongers, project manager for the Enterprise's Bike Friendly Campus team. Read the article at bike.

Michigan Tech students held a run supporting the victims of the Boston Marathon bombings on April 22, 2013. The event was picked up by CBS news Detroit, see the article at Detroit.

The Michigan Tech Concert Choir received TV coverage during its current tour of the Dalmatian Coast in eastern Europe. See choir.

According to former Secretary of Education, William Bennett, only 150 of 3,500 U.S. colleges are worth the investment and Michigan Tech, ranked at 101 right behind the University of Michigan, is one of them. Read the article at investment. See other rankings at salary.

Michigan Tech's Mind Trekker organization was highlighted on Fox 11 news for their presentations on the Northeast Wisconsin Technical College in Green Bay on April 18, 2012. More than three thousand middle schoolers attended the event. Mind Trekkers is an organization committed to engaging people worldwide in action-packed, hands-on learning. They aim to ignite an enthusiasm for science, technology, engineering, mathematics, higher education, and learning in K-12 students.

Dr. Wayne Pennington, chair of the Department of Geological and Mining Engineering and Sciences, has been named interim dean of the College of Engineering, effective May 13. His appointment is expected to end June 30, 2014, or until the search for the next dean is concluded and the dean appointed.

Michigan Tech was recognized at a Champions of Change reception at the White House Tuesday, June 4, 2013. They were one of the selected entrepreneurs who are using crowdfunding to support the growth of small businesses and innovative projects.